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Ticker fluency, sentiment, and asset valuation

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ABSTRACT

The objective of this study is to examine whether investors channel their propensity to speculate differently depending on the fluency of a stock's ticker (i.e., the ticker's ease of pronunciation). Baker and Wurgler (2006) suggest that this propensity to speculate defines investor sentiment, and Green and Jame (2013) contend that fluency of a company's name can affect the level of investor recognition for the stock. We hypothesize that when investors speculate, they speculate in stocks that have greater recognition and thus cause such stocks to be overvalued. We test this hypothesis by examining whether, when beginning-of-period sentiment is high, stocks with most-fluent tickers underperform stocks with least-fluent tickers (as measured by returns). We find that in periods preceded by high sentiment, stocks with most-fluent tickers have lower returns than stocks with least-fluent tickers have. This study contributes to the literature by documenting that stock prices are affected by characteristics of securities with no bearing on stocks' underlying cash flows, risk characteristics, or required returns. Additionally, a readily usable measure of the affinity that an investor might have for a particular ticker is presented and developed.

1. Introduction

In a frictionless market with rational investors, an asset's expected return is based solely on its expected future cash flows and its current price. Price incorporates required return, which is a function of systematic risk. Therefore, holding expected future cash flows constant, variation in expected returns on assets is solely a function of variation in systematic risks associated with the assets. Recent empirical evidence, however, shows that factors such as time-varying sentiment and cross-sectional variation in investor recognition do have a significant influence on overall variation in stock returns. We contend that ease with which a ticker symbol can be processed (i.e., the fluency of the ticker) will affect the level of investor recognition for the associated stock. The objective of this study is to examine the interplay among investor sentiment, fluency of tickers, and asset valuation.

We explore whether stock returns vary as a function of ticker-symbol fluency and, further, whether the variation in returns is dependent on the level of investor sentiment in the marketplace. Baker and Wurgler (2006, p. 1648) define investor sentiment as "the propensity to speculate" and we conjecture that when investors speculate, they will speculate on stocks of which they are already aware. We thus anticipate that in periods with high sentiment, stocks with more fluent tickers will accrue a speculative premium, causing them to be valued more highly than stocks with low-fluency tickers, ultimately resulting in lower returns during subsequent periods. We anticipate the converse relation in periods that are preceded by low sentiment.

We employ an innovative measure of fluency for ticker symbols in this study. This measure is based on an algorithm pioneered by Travers and Olivier (1978) and also employed by Green and Jame (2013). The algorithm assigns an "Englishness" value to any given succession of letters, based on the frequency with which each given cluster of letters within the succession appears in the English language. After establishing a fluency value for every ticker of at least three letters[1] in the CRSP[2] universe of stocks from 1966 through 2010, we then validate our fluency measure by performing our own analogous versions of two studies that have previously found relations between ticker-symbol characteristics and stock returns

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[1] Tickers with fewer than three characters are excluded. The fluency algorithm relies on trigrams to compute a fluency score. It may be argued that omitting stocks with one and two letter symbols might distort our findings, but these stocks are typically among the best well-known and the oldest (which is typically how they wound up with shorter tickers). These stocks are likely already very familiar to investors.

[2] CRSP is the abbreviation for the Center for Research in Securities Prices.

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(Alter & Oppenheimer, 2006; Head, Smith, & Wilson, 2009). Similar to what Alter and Oppenheimer find, we find statistically significant differences between returns on stocks with most-fluent tickers and returns on stocks with least-fluent tickers, also focusing on initial public offering (IPO) dates from which we measure returns. Similar to Head et al.'s findings, we find abnormal returns on a portfolio of stocks with most-fluent tickers. These two findings confirm that our objectively-constructed fluency variable is capturing many of the same effects observed by Alter and Oppenheimer and Head et al., whose studies both used more subjective techniques to respectively identify fluency and cleverness.

Next, we employ a method similar to that of Baker and Wurgler (2006) and perform monthly, fluency-based sorts on the same CRSP universe of stocks. Using the monthly sorts, we form monthly portfolios that are long in the quintile of stocks with the most-fluent tickers and short in the quintile of stocks with the least-fluent tickers. For each portfolio, we calculate its return as the difference between the two extreme portfolios' value-weighted monthly returns. We then regress the portfolio returns on beginning-of-period (i.e., incoming) investor sentiment and on the four Fama–French factors, and we find a negative relation between incoming sentiment and monthly returns. This relation implies that when incoming sentiment is high [low], subsequent returns on stocks with highly-fluent tickers are less [greater] than returns on stocks with tickers of low fluency, as predicted by our hypothesis.

Our study advances the literature in that it is the first to jointly examine the fluency of ticker symbols and overall levels of sentiment in the marketplace. This study is also the first, of which we are aware, to utilize an objective mechanism for measuring the fluency of ticker symbols. We demonstrate that stock returns are related to the accessibility of a particular characteristic (namely, the ticker symbol) that has no bearing on firms' underlying cash flows, and that the type of relation is dependent upon level of sentiment.

This paper proceeds with a literature review and a development of our hypotheses in Section 2. It continues with a discussion of our dataset and variables in Section 3. Section 4 follows with an explanation of our methodology and an analysis of our findings. Section 5 concludes.

2. Background and hypothesis development

Baker and Wurgler (2006) describe investor sentiment as investors' propensity to speculate and they construct an index that encompasses six well-established proxies for sentiment. They find that when sentiment is high at the beginnings of periods, subsequent returns are low for certain stocks that are likely to attract speculative investing (i.e., stocks of young firms, stocks with higher arbitrage costs, and other hard-to-value stocks). Lemmon and Portniaguina (2006) find results similar to those of Baker and Wurgler, while using consumer sentiment instead of investor sentiment. These studies corroborate the role of sentiment in asset valuation.

In his investor recognition hypothesis, Merton (1987) assumes that investors, with a universe of stocks from which to choose when constructing portfolios, only select from the subsets of stocks of which they are aware. This hypothesis implies that stocks with low degrees of investor recognition must offer higher expected returns to compensate the smaller base of investors who invest in (and, hence, create markets for) these stocks while bearing unsystematic risk in their under-diversified portfolios. Several studies provide empirical support for the investor recognition hypothesis. For example, Chen, Noronha, and Singal (2004) find permanent price increases for stocks that get added to the S&P500 Index, consistent with the index additions creating valuable, additional investor awareness, while Bodnaruk and Ostberg (2009) find that stock returns are inversely related to the sizes of the shareholder bases for a sample of Swedish holdings. Green and Jame (2013) document that firms with fluent names have greater investor recognition and higher valuation, suggesting that investors are influenced by firms' names.

Another identifying characteristic besides firm name that seems to attract investor attention is the ticker symbol, as demonstrated by numerous studies. Rashes (2001) finds that stock prices of companies that have similar ticker symbols (or tickers, for short) tend to exhibit comovement in returns, possibly because investors get confused between the tickers. In a similar vein, Cooper, Dimitrov, and Rau (2001) discuss a case wherein investors, in response to an IPO filing by AppNet Systems, bought stock in and, hence, increased the stock price of Appian Technology (whose ticker APPN could potentially be inferred to belong to AppNet). Furthermore, Kadapakkam and Misra (2007) find that changes in ticker symbols are associated with changes in trading volumes and prices surrounding the effective dates. This combined evidence suggests that investors do devote attention to companies' ticker symbols.

Having established that ticker symbols do attract attention, investors are likely to prefer stocks with tickers that are familiar, easy to process, or both. Past research has demonstrated that high levels of information processing fluency are likely to elicit positive affect (Reber, Schwarz, & Winkielman, 2004). In addition, as demonstrated in Alter and Oppenheimer's (2009) thorough survey of the literature, fluency is an omnipresent, metacognitive cue that affects all types of judgments and decision-making.

Alter and Oppenheimer (2006) find that stocks with tickers that are more easily pronounceable outperformed stocks with tickers that are harder to process. This evidence is consistent with investors being affected by fluency of ticker symbols when making investment decisions. In a similar study, Head et al. (2009) examine stocks with what they call clever tickers, tickers that are witty in such ways that the tickers might linger longer in investors' memories. The authors find abnormal returns on a portfolio of clever-ticker stocks even while controlling for well-known factors (Fama & French, 1993; Carhart, 1997). Thus, stocks with tickers that are either fluent or clever might make for easier recall by an investor making a current set of investment decisions.

In summary, if investors are prone to speculate, they will likely speculate in stocks of which they are already aware. In addition, fluency of ticker symbols appears to be a mechanism by which investors can become aware of stocks. Consequently, when sentiment is high, stocks with highly-fluent tickers will trade at prices that are above fundamental values; these stocks are likely to exhibit low returns in periods subsequent to the high-sentiment periods. Thus, we hypothesize that when incoming sentiment is high, returns on a portfolio of high-fluency-ticker stocks will be lower than returns on a portfolio of low-fluency-ticker stocks. When incoming investor sentiment is low, the converse will be true.

3. Data and variables

For our analysis, we utilize the following variables that might impact investor behavior and stock returns: ticker symbols, fluencies of tickers, an index that captures market-wide levels of sentiment, and the four Fama–French factors that are well-documented as explaining much of the cross-sectional variation in returns. We also use stock returns to construct the dependent variables in our study.

3.1. Ticker symbols

Our study uses data from CRSP for 22,456 stocks, spanning the years 1966 through 2010. For each stock, we are interested in the